PCT





INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ':		(11) International Publication Number	er: WO 00/55225
C08F 255/00, B29C 47/92	A1	(43) International Publication Date:	21 September 2000 (21.09.00)

(21) International Application Number: PCT/FI00/00221

(22) International Filing Date: 17 Marc

17 March 2000 (17.03.00)

(30) Priority Data:

990613

18 March 1999 (18.03.99)

FI

(71) Applicant (for all designated States except US): NEXTROM HOLDING S.A. [CH/CH]; Route Du Bois 37, CH-1024 Ecublens (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HARLIN, Ali [FI/FI]; Kärppärinne 1, FIN-01450 Vantaa (FI). HIRVENSALO, Matti [FI/FI]; Harjuviita 2 A 12, FIN-02110 Espoo (FI).

(74) Agent: KOLSTER OY AB; Iso Roobertinkatu 23, P.O. Box 148, FIN-00121 Helsinki (FI).

(81) Designated States: AE, AG, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, DZ, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR (Utility model), KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: PROCESS FOR PRODUCING A CROSS-LINKED POLYMER PRODUCT

(57) Abstract

The invention relates to a process for producing a polymer product cross-linked by silane where a polymer, a grafting agent, an initiator and a cross-linking catalyst and possible additives are fed into an extruder and extruded, whereafter the grafted material obtained is cross-linked using water and the catalyst for obtaining a cross-linked polymer product. According to the process the grafting degree of the grafted material is determined using an on line method and based upon the result obtained the amounts of the components to be fed into the extruder are continuously adjusted in order to obtain the desired grafting degree.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Treland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	zw	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

INTERNATIONAL SEARCH REPORT

International application No. PCT/FI 00/00221

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: C08F 255/00, B29C 47/92
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: C08F, B29C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
х	GB 2202537 A (BICC PUBLIC LIMITED COMPANY), 28 Sept 1988 (28.09.88), page 2, line 5 - line 13, abstract, claims	1-12
		
A	US 4370450 A (U. GRIGO ET AL), 25 January 1983 (25.01.83), column 5, line 26 - line 29; column 7, line 25 - line 45, claims	1-12
		
A	US 4448736 A (D.B. EMERY ET AL), 15 May 1984 (15.05.84), column 1, line 7 - line 19; column 3, line 40 - line 59, abstract, claims	1-12

LX	Further documents are listed in the continuation of Box C.	X	See patent family annex.

- Special categories of cited documents:
- "A" document defining the general state of the art winch is not considered to be of particular relevance
- erlier document but published on or after the international filing date
- document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- document referring to an oral disclosure, use, exhibition or other means
- document published prior to the international filing date but later than the priority date claimed
- later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search Date of mailing of the international search report 21 -07- 2000 <u>14 July 2000</u> Name and mailing address of the ISA/ Authorized officer Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Helena Danielsson / MRo Facsimile No. +46 8 666 02 86 Telephone No. +46 8 782 25 00

Form PCT/ISA:210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International application No. PCT/FI 00/00221

	·	PC1/F1 00/00221
C (Continu	ation). DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the rele	vant passages Relevant to claim No
A	US 4117195 A (P. SWARBRICK ET AL), 26 Sept 19 (26.09.78)	78 1-12
	·	

INTERNATIONAL SEARCH REPORT

Information on patent family members

02/12/99

International application No.
PCT/FI 00/00221

	atent document I in search repor	rt	Publication date		Patent family member(s)		Publication date
₿B	2202537	Α	28/09/88	AU	602554	В	18/10/90
				AU	1118388	A	01/09/88
				CA	1311866		22/12/92
				HK	31791		03/05/91
				NZ	223648		28/06/89
				SG	12691	G	05/04/91
IS	4370450	Α	25/01/83	DE	3021105	A	21/01/82
				EP	0041214		09/12/81
				JP	57023614	A	06/02/82
IS	4448736	A	15/05/84	BE	896819	Α	16/09/83
JS	4117195	 A	26/09/78	AT	345554	В	25/09/78
				AT	923275		15/01/78
				AU	503860	В	27/09/79
				AU	8727975	A	09/06/77
				BE	836338		08/06/76
				CA	1066010	Α	13/11/79
				CH	627402	Α	15/01/82
				CH	634253		31/01/83
				DE	2554525		16/06/76
				ES	443269		16/04/77
				FR	2293776		02/07/76
				GB	15 <i>2</i> 6398		27/09/78
				IT	1056172		30/01/82
				JP	51082361		19/07/76
				JP		В	28/05/83
				MY	15780		31/12/80
				NL	186096		17/04/90
				NL	7514222		09/06/76
				NO	144423		18/05/81
				NO	754113		09/06/76
				SE	411765		04/02/80
				SE	7513728		08/06/76
				ZA	7507532	A	24/11/76